Top Secret

[redacted]

25X1

PHOTOGRAPHIC
INTERPRETATION
REPORT

NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER

PROBABLE SS-X-20 LAUNCH-RELATED ALIGNMENT/REFERENCE MARKERS USSR (S)

Top Secret

[redacted]

25X1

PIR-019/77

25X1

AUGUST 1977

Copy 133

[redacted]

Warning Notice
Sensitive Intelligence Sources and Methods Involved
(WNINTEL)

NATIONAL SECURITY INFORMATION
Unauthorized Disclosure Subject to Criminal Sanctions

25X1

DISSEMINATION CONTROL ABBREVIATIONS

NOFORN-	Not Releasable to Foreign Nationals
NOCONTRACT-	Not Releasable to Contractors or Contractor/Consultants
PROPIN-	Caution-Proprietary Information Involved
USIBONLY-	USIB Departments Only
ORCON-	Dissemination and Extraction of Information Controlled by Originator
REL . . .	This Information has been Authorized for Release to . . .

25X1

PROBABLE SS-X-20 LAUNCH-RELATED ALIGNMENT/REFERENCE MARKERS, USSR (S)

1. (TSR) Analysis of imagery of Kapustin Yar MR Test Complex C, Site 1 [redacted] 25X1
Gladkaya Probable SSM Research and Development (R&D) Test Position [redacted] and 25X1
Drovyanaya Mobile IRBM Base 1 [redacted] all in the USSR, has revealed probable 25X1
alignment/reference markers which appear to be associated with the SS-X-20 missile system (Figure 1). Although the purpose of these probable alignment/reference markers has not been determined, the presence of the markers at two areas where SS-X-20 launches have taken place (Kapustin Yar and Gladkaya) and near Drovyanaya Mobile IRBM Base 1, which is believed to have a probable launch capability, suggests that they are necessary launch site structures which are built near the launch point(s). If this is true, then SS-X-20 field-deployed launch positions should have similar signatures.

2. (TSR) At Kapustin Yar Test Complex C, three probable alignment/reference markers were constructed around site 1 (Figure 2) during the modification of this site for the SS-X-20 R&D program in 1974. The three markers were constructed outside the site security fences and apparently form an equilateral triangle, approximately 1,531 meters per side. The three markers each consist of a fence-secured structure [redacted] A cylindrical object that 25X1
appears to be domed on the top projects through the center of the structure (inset, Figure 2). Similar structures are also adjacent to launch pad 1C-3 within launch site 1.

3. (TSR) At Gladkaya Probable SSM R&D Test Position, similar probable alignment/reference markers were constructed in January 1975, approximately seven months before the first of four SS-X-20 launches from the Gladkaya complex. Three fence-secured probable markers (Figure 3) were identified near the probable test position (Figure 3). One of the markers is within the security fence that was constructed around the probable test position. The other two are approximately 1,100 meters from this position and form a scalene triangle.

4. (TSR) At Drovyanaya Mobile IRBM Base 1, three fence-secured markers similar to those at Kapustin Yar were constructed between October 1976 and March 1977 (Figure 4). One marker is in the center of the old SS-7 launch site between a three-bay garage and the SS-7 nuclear warhead area. A second marker is north of the site security fence approximately 680 meters from the onsite marker. The third marker is on a hilltop east of the launch site approximately 1,148 meters from the onsite marker. Presently, these three markers do not appear to have direct line-of-sight to one another as do those at Kapustin Yar and Gladkaya. The structures surrounding the cylindrical object [redacted] are approximately 2.0 to 3.0 meters high. 25X1

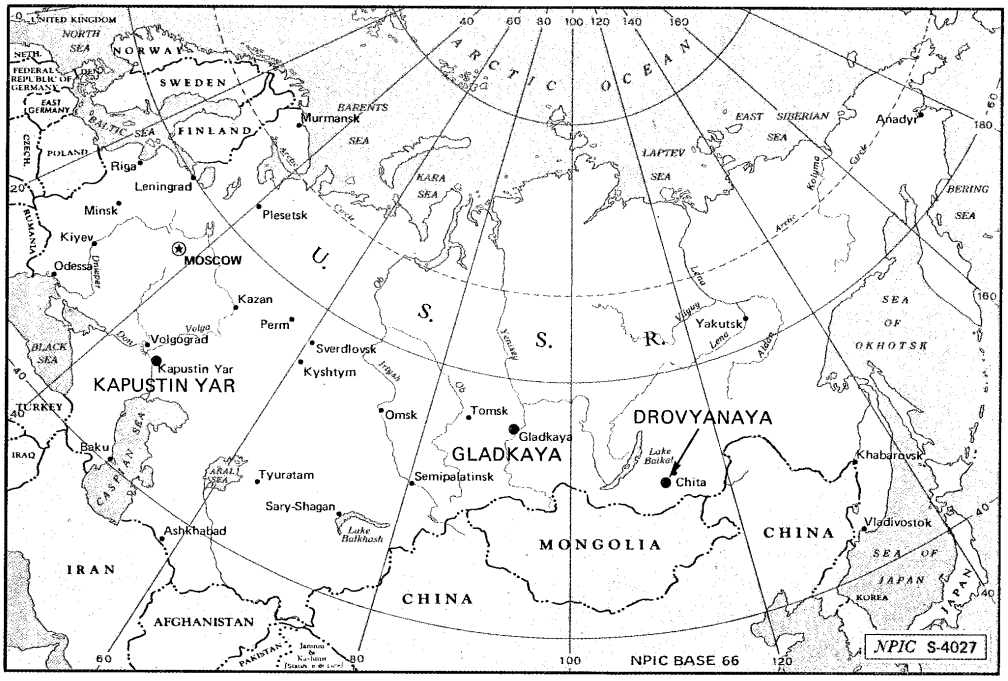
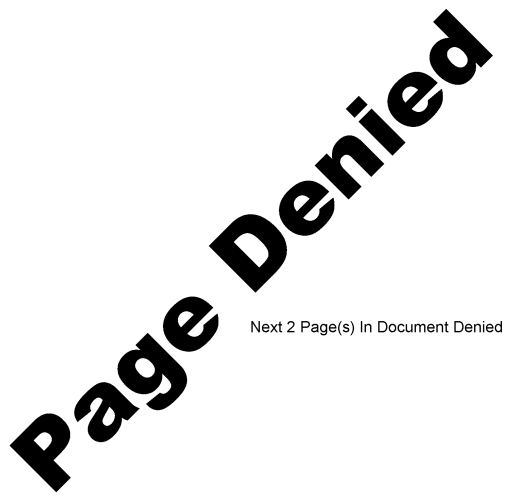


FIGURE 1. LOCATION OF FACILITIES IN THE USSR WHERE PROBABLE ALIGNMENT/REFERENCE MARKERS HAVE BEEN IDENTIFIED

25X1



Next 2 Page(s) In Document Denied

5. (TSR) At Drovyanaya Mobile IRBM Base 2 none of the new markers have been identified. However, at both of the Drovyanaya bases old probable alignment/reference markers have been identified which were probably for the SS-7 missile system (Figure 4). At least two markers were constructed outside the site security fences at both launch sites when these were operational SS-7 launch sites. It is not known whether these old SS-7 markers could provide the same function as those recently constructed at Drovyanaya Base 1.

6. (TSR) Although new survey towers and some unidentified mounds with an object in the center have been recently constructed around the Kozhanovichi and Konkovichi Mobile IRBM Bases, none resemble the markers at Drovyanaya, Gladkaya, and Kapustin Yar. However, these mounds/survey towers may serve the same purpose.

7. (TSR) No new markers have been identified at Novosibirsk Mobile IRBM Base. Additionally, no markers of any type are discernible at the recently identified mobile base at Mozyr Army Barracks AL-2.

REFERENCES

25X1

REQUIREMENT

Project 143480NH

25X1

List of Conversion Factors by Classification

UNITS OF LENGTH

IF YOU HAVE	*MULTIPLY BY*	*TO OBTAIN*
MILLIMETERS	0.0394	INCHES
CENTIMETERS	0.3937	INCHES
INCHES	25.4000	MILLIMETERS
INCHES	2.5400	CENTIMETERS
FEET	0.3048	METERS
FEET	0.0003	KILOMETERS
YARDS	0.9144	METERS
METERS	3.2808	FEET
METERS	0.0005	MILES(NAUTICAL)
METERS	1.0936	YARDS
KILOMETERS	3280.8400	FEET
KILOMETERS	0.6214	MILES(STATUTE)
KILOMETERS	0.5400	MILES(NAUTICAL)
MILES(STATUTE)	1.6093	KILOMETERS
MILES(NAUTICAL)	6076.1154	FEET
MILES(NAUTICAL)	1.8520	KILOMETERS
MILES(NAUTICAL)	1852.0000	METERS

UNITS OF AREA

IF YOU HAVE	*MULTIPLY BY*	*TO OBTAIN*
SQUARE CENTIMETERS	0.1550	SQUARE INCHES
SQUARE INCHES	6.4516	SQUARE CENTIMETERS
SQUARE FEET	0.0929	SQUARE METERS
SQUARE YARDS	0.8361	SQUARE METERS
SQUARE METERS	10.7639	SQUARE FEET
SQUARE METERS	1.1960	SQUARE YARDS
SQUARE METERS	1.0000	CENTARES
SQUARE METERS	0.0002	ACRES
SQUARE METERS	0.0001	HECTARES
ACRES	4046.8564	SQUARE METERS
ACRES	0.4047	HECTARES
HECTARES	10000.0000	SQUARE METERS
HECTARES	2.4711	ACRES

UNITS OF MASS

IF YOU HAVE	*MULTIPLY BY*	*TO OBTAIN*
KILOGRAMS	2.2046	POUNDS(AVOIR.)
POUNDS(AVOIR.)	0.4536	KILOGRAMS
SHORT TONS	0.9072	METRIC TONS
METRIC TONS	1.1023	SHORT TONS
METRIC TONS	0.9842	LONG TONS
LONG TONS	1.0160	METRIC TONS

UNITS OF VOLUME

IF YOU HAVE	*MULTIPLY BY*	*TO OBTAIN*
LITERS	0.2642	GALLONS
LITERS	0.0063	BARRELS(POL)
LITERS	0.0010	CUBIC METERS
GALLONS	3.7854	LITERS
GALLONS	0.1337	CUBIC FEET
GALLONS	0.0238	BARRELS(POL)
GALLONS	0.0038	CUBIC METERS
BUSHELS	0.0352	CUBIC METERS
CUBIC FEET	7.4805	GALLONS
CUBIC FEET	0.1781	BARRELS(POL)
CUBIC FEET	0.0283	CUBIC METERS
CUBIC YARDS	0.7646	CUBIC METERS
BARRELS(POL)	158.9873	LITERS
BARRELS(POL)	42.0000	GALLONS
BARRELS(POL)	5.6146	CUBIC FEET
BARRELS(POL)	0.1590	CUBIC METERS
CUBIC METERS	1000.0000	LITERS
CUBIC METERS	264.1721	GALLONS
CUBIC METERS	35.3147	CUBIC FEET
CUBIC METERS	28.3776	BUSHELS
CUBIC METERS	6.2898	BARRELS(POL)
CUBIC METERS	1.3080	CUBIC YARDS

[redacted]